

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**POWER OF ATTORNEY  
and  
CORRESPONDENCE ADDRESS  
INDICATION FORM**

Application Number	09/842,214
Filing Date	April 25, 2001
First Named Inventor	Dmitri V. Vezenov
Title	METHOD OF FABRICATING.
Art Unit	1765
Examiner Name	Ahmed, S.
Attorney Docket Number	03-2459 / 1496.00379

I hereby appoint:

☒ Practitioners associated with the Customer Number:

24319

OR

☐ Practitioner(s) named below:

Name	Registration Number

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the above-identified application to:

☒ The address associated with the above-mentioned Customer Number:

OR

☐ The address associated with Customer Number:

OR

<input type="checkbox"/> Firm or Individual Name				
Address				
Address				
City		State		Zip
Country				
Telephone		Fax		

I am the:

☐ Applicant/Inventor.

☒ Assignee of record of the entire interest. See 37 CFR 3.71.  
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

**SIGNATURE of Applicant or Assignee of Record**

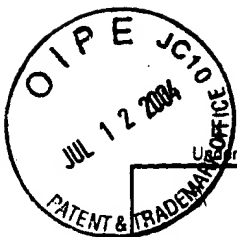
Name	Sandeep Jaggi		
Signature			
Date	7-6-04	Telephone	

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☒ \*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Calimetrics, Inc.Application No./Patent No.: 09/842,214 Filed/Issue Date: April 25, 2001Entitled: METHOD OF FABRICATING SUB MICRON HEMISPHERICAL AND HEMICYLINDRICAL...LSI Logic Corporation, a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest.  
The extent (by percentage) of its ownership interest is \_\_\_\_\_ %  
in the patent application/patent identified above by virtue of either:

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

**OR**

B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: Dmitri V. Vezenov et al. To: Calimetrics, Inc.

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

2. From: Calimetrics, Inc. To: LSI Logic Corporation

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

3. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☐ Copies of assignments or other documents in the chain of title are attached.

(NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08)

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Date

7/6/04  
408 954 4923

Telephone number

Sandeep Jaggi

Typed or printed name

[Signature]  
Chief Intellectual Property  
Counsel IP Law Dept.

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Nov 29 01 02:33p

Calimetrics

781-275-3322

P. 4

Application No.: 09/842,214  
Filing Date: April 25, 2001

PATENT  
Client Code: CALIME.006A  
Page 1

# ASSIGNMENT


WHEREAS, We, John M. Guerra, a United States citizen, residing at 250 Old Marlboro Road, Concord, Massachusetts 01742, Dmitri V. Veznov, a Russian citizen, residing at 37 Franconia Avenue, Natick, Massachusetts 01760, Leonard Wan, a United States citizen, residing at 858 West Roxbury Parkway, Chestnut Hill, MA 02467, and Paul F. Sullivan, a United States citizen, residing at 139 Green Hill Road, Westwood, Massachusetts 02090, have invented certain new and useful improvements in a METHOD OF FABRICATING SUBMICRON HEMISPHERICAL AND HEMICYLINDRICAL STRUCTURES FROM NON-SPHERICALLY SHAPED TEMPLATES for which we have filed an application for Letters Patent in the United States, Application No. 09/842,214, Filed April 25, 2001;

AND WHEREAS, Calimetrics, Inc., a California corporation, with its principal place of business at 815 Atlantic Avenue, Suite 105 Alameda, California 94501-2274, desires to acquire the entire right, title, and interest in and to the said improvements and the said Application:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to me in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said inventors, do hereby acknowledge that we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, its successors, legal representatives and assigns, the entire right, title, and interest throughout the world in, to and under the said improvements, and the said application and all divisions, renewals and continuations thereof, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions and applications for Letters Patent which may hereafter be filed for said improvements in any country or countries foreign to the United States, and all Letters Patent which may be granted for said improvements in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and we hereby authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said improvements to the said ASSIGNEE, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we will communicate to the said ASSIGNEE, its successors, legal representatives and assigns, any facts known to us respecting said improvements, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and generally do everything possible to aid the said ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said improvements in all countries.

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 29 day of November, 2001.

  
John M. Guerra

STATE OF }  
COUNTY OF } ss.

On \_\_\_\_\_, before me, \_\_\_\_\_, personally appeared John M. Guerra personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

[SEAL]

Notary Signature  
IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 29 day of November, 2001.

Nov 29 01 02:33p

Calimetrics

781-275-3322

P.5

Application No.: 09/142,214  
Filing Date: April 25 2001

PATENT  
Client Code: CALIME.006A  
Page 2

  
Dmitri V. Vezenov

STATE OF

COUNTY OF

ss.

On \_\_\_\_\_, before me, \_\_\_\_\_, personally appeared Dmitri V. Vezenov, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

[SEAL]

\_\_\_\_\_  
Notary Signature

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 29 day of Nov, 2001.

  
Leonard Wan

STATE OF

COUNTY OF

ss.

On \_\_\_\_\_, before me, \_\_\_\_\_, personally appeared Leonard Wan, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

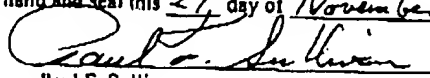
[SEAL]

\_\_\_\_\_  
Notary Signature

Application No.: 09/842,214  
Filing Date: April 25, 2001

PATENT  
Client Code: CALIME.006A  
Page 3

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 29 day of November, 2001.

  
Paul F. Sullivan

STATE OF

COUNTY OF

} ss.

On \_\_\_\_\_, before me, \_\_\_\_\_, personally appeared Paul F. Sullivan personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

[SEAL]

\_\_\_\_\_  
Notary Signature

**GENERAL PATENT ASSIGNMENT**

WHEREAS, Calimetrics, Inc., a California corporation ("Assignor") owns the patents and patent applications listed and described on Schedule A attached hereto (the "Patents"); and

WHEREAS, Assignor and LSI Logic Corporation ("Assignee") have entered into an Asset Purchase Agreement dated November 21, 2003, pursuant to which Assignor has agreed, *inter alia*, to grant to Assignee all of Assignor's right title and interest in and to the Patents and Assignee desires to acquire the entire right, title and interest in and to the Patents.

NOW, THEREFOR, in consideration of the foregoing and the sum of One Dollar (\$1.00), and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor does hereby irrevocably sell, assign, convey and transfer unto Assignee, the entire right, title and interest in and to the Patents, anywhere in the world, including any patents issuing from or based upon all patent applications thereon, any foreign counterparts thereof, and any continuations, continuations-in-part, divisions, reissues or extensions of the foregoing, and including, without limitation, the right to sue for and recover damages for any past, present or future infringement of the foregoing, the same to be held and enjoyed by Assignee for its own use, and for its legal representatives and assigns, to the full end of the term for which patents are granted, as fully and entirely as the same would have been held by Assignor had this assignment and sale not been made.

Assignor agrees to execute, any further papers and to do such other acts as may be necessary and proper, or otherwise required by the Asset Purchase Agreement, to vest full title in and to the Patents in Assignee.

IN WITNESS WHEREOF, Assignor has caused these presents to be duly executed in a manner appropriate thereto as of the 21st day of November 2003.

CALIMETRICS, INC.

By: 

Name: Kenneth C Campbell

Title: President & CEO

**ACKNOWLEDGMENT**

State of California )  
 ) ss:  
County of San Bernardino )

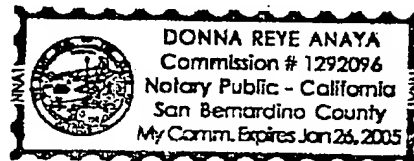
On this 20<sup>th</sup> day of November 2003, before me, the undersigned, personally appeared Kenneth C. Campbell, ☐ personally known to me - OR - ☒ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she~~/~~they~~ executed the same in his/~~her~~/~~their~~ authorized capacity(~~ies~~), and that by his/~~her~~/~~their~~ signature(~~s~~) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature: Donna Reye Anaya

Notary Public

(Seal)



## SCHEDULE A

Patents and Patent Applications**Issued Patents:****Calimetrics Original Issued US Patents (17)**

Patent No.	Title	Inventors	Filing Date	Issue Date
5,818,806	Method and Apparatus for Providing Equalization for the Reading of Marks on Optical Data Storage Media	Wong, Spielman	5/6/1997	10/6/1998
5,854,779	Optical Disc Reader for Reading Multiple Levels of Pits on an Optical Disc	Johnson, B; McDermott; O'Neill; Pietrzyk; Spielman; Wong	1/5/1996	12/29/1998
6,115,348	Information Storage Systems Utilizing Media With Optically Differentiated Data Sites	Guerra	12/24/1997	9/5/2000
6,148,428	Method and Apparatus for Modulation Encoding Data for Storage on a Multi-Level Optical Recording Medium	Welch; Wong; McLaughlin	5/21/1998	11/14/2000
6,249,507	Information Storage Systems Utilizing Media With Optically Differentiated Data Sites	Guerra	8/15/2000	6/19/2001
6,269,060	Programmable Write Signal Generator	Harvey; Swuito	9/9/1999	7/31/2001
6,275,458	Method and Apparatus for Reading and Writing A Multi-Level Signal from an Optical Disc	Wong; Spielman; Lee; Martin	2/18/1999	8/14/2001
6,377,529	Method for Providing Improved Equalization for the Reading of Marks on Optical Data-Storage Media	Lee; Ling; Lo; McLaughlin	6/1/2000	4/23/2002
6,381,724	Method and Apparatus for Modulation Encoding Data for Storage on a Multi-Level Optical Recording Medium	Welch; Wong; McLaughlin	8/22/2000	4/30/2002
6,385,255	Coding system and Method for Partial Response Channels	McLaughlin; Lee; Zingman; Fan	8/6/1999	5/7/2002
6,396,789	Data Storage System and Methods Using Diffractive Near-Field Optics	Guerra; Kendra	2/27/1998	5/28/2002
6,504,807	Programmable Write Signal Generator	Harvey; Swuito	6/7/2001	1/7/2003
6,604,219	DC Control of a Multilevel Signal	Lee, Fan, Lo	2/2/2000	8/5/2003
6,608,807	Generating a Multilevel Calibration Sequence for Precompensation	Lee	2/2/2000	8/19/2003
10/302,761	Programmable Write Signal Generator (allowed)	Harvey; Swuito	11/22/2002	
09/910,464	Method and Apparatus for Reading and Writing A Multi-Level Signal from an Optical Disc (allowed)	Wong; Fan; Lee; Ling, Lo, McLaughlin; McPheters, Martin, Powelson; Spielman; Warland, Zingman	7/19/2002	
09/746,748	Optical Disk Initialization Method and Apparatus (allowed)	Guerra; Vezenov	12/22/2000	



**Acquired Issued US Patents (20)**

Patent No.	Title	Inventors	Filing Date	Issue Date
5,113,387	THREE LASER OPTICAL DISK DRIVE SYSTEM	Goldsmith, Ziegler	12/12/1989	5/12/1992
5,128,849	OPTICAL DISK STRUCTURES FOR ELECTRON TRAPPING OPTICAL MEMORY MEDIA	Podraczy, Ziegler	12/12/1989	7/7/1992
5,195,082	OPTICAL DISK STRUCTURES FOR ELECTRON TRAPPING OPTICAL MEMORY MEDIA	Revay, Brower, Espin	4/22/1992	3/16/1993
5,537,382	PARTIAL RESPONSE CODING FOR A MULTI-LEVEL OPTICAL RECORDING CHANNEL	McLaughlin, Calderbank, Laroia, Gerpheide	11/22/1994	
5,657,014	M=7(3,7) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	8/12/1997
5,659,310	M=5(0,2) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	8/19/1997
5,659,311	M=6(2,4) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	8/19/1997
5,663,722	M=10(3,6) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	9/2/1997
5,663,723	M=7(1,3) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	9/2/1997
5,668,546	M=6(3,6) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	9/16/1997
5,670,956	M=5(3,7) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	9/23/1997
5,675,330	M=5(4,11) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	10/7/1997
5,680,128	M=6(3,8) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	10/21/1997
5,682,154	M=4(1,2) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	10/28/1997
5,682,155	M=6(4,11) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	10/28/1997
5,748,117	M=8(1,3) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	5/5/1998
5,748,118	M=7(3,8) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	5/5/1998
5,757,293	M=8(1,2) RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	5/26/1998
5,781,130	M-ARY (D;K) RUNLENGTH LIMITED CODING FOR MULTI-LEVEL DATA	McLaughlin	5/12/1995	7/14/1998
6,150,964	M=10(2,10), D=3.75 RUNLENGTH LIMITED CODE FOR MULTI-LEVEL DATA	McLaughlin	8/20/1997	11/21/2000

**Calimetrics Issued Foreign Patents (2)**

Patent No.	Country	Title	Inventors	Filing Date	Issue Date
707392	Australia	Apparatus and Methods for Forming and Use with Variable Pit Depth Optical Recording Media	Wong, Spielman	3/24/1997	8/7/1999 (acceptance to be advertised)
2,249,403	Canada	Apparatus and Methods for Forming and Use with Variable Pit Depth Optical Recording Media	Wong, Spielman	3/24/1997	1/9/2001

**Pending Patent Applications:****Calimetrics Original US Patents Pending (14)**

Serial No.	Title	Inventors	Filing Date
09/373,916	High Density Data Write Strategy	O'Neill; Wong; Balasubrama; Bashaw; Learmonth; McDermott; Narayan; Powelson; Warland; Zhou	8/12/1999
09/476,395	Method and Format for Reading and Writing in a Multilevel Optical Disc System	Wong; Lewis; Lee; Ling; Pope; Spielman; Zingman	9/16/2003
09/496,898	Write Compensation for a Multi-Level Data Storage System	Powelson, Warland	2/2/2000
10/171,394	Advanced High Density Data Write Strategy	Balasubramanian, Hieslmair, Narayan, Powelson, Stinebaugh, Warland, Zhou	6/12/2002
09/828,311	Digital Automatic Gain Control of a Multilevel Optical Disc Read Signal	Lo; Lee; Powelson; Spielman	4/6/2001
09/872,486	Synchronization in Multilevel Optical Data Storage	Lee; Spielman; Zingman; Lewis	5/31/2001
10/012,257	Write Compensation for Data Storage and Communication System	Powelson; Warland; Harvey; Lo; Pepin; Spielman; Zhou; Zingman; Lee	11/8/2001
09/823,852	High Density Analog Recording	Miyagawa; Mansuripur	3/29/2001
09/842,214	Method of Fabricating Sub-Micron Hemispherical and Hemicylindrical Structures from Non-Spherically Shaped Templates	Vezenov, Guerra; Wan; Sullivan	4/25/2001
09/842,098	Optical Storage Medium with Virtual Track Pitch	Vezenov; Guerra; Wan; Sullivan; Nelson	4/25/2001
10/057,774	Advanced Forward Error Correction	McLaughlin; Thangaraj	1/22/2002
10/387,232	Secure Data Storage	Wong, Harvey, Lee, Lewis, Spielman, Tan, Warland	3/11/2003
10/455,756	DC Control of a Multilevel Signal	Lee, Fan, Lo	6/5/2003
10/608,890	Generating a Multilevel Calibration Sequence for Precompensation	Lee	6/26/2003

**Calimetrics Foreign Patents Pending (7)**

App. No.	Country	Title	Inventors	Filing Date
97917035.4	Europe	Apparatus and Methods for Forming and Use with Variable Pit Depth Optical Recording Media	Wong and Spielman	3/24/97
33584/00	Australia	Method and Apparatus for Reading and Writing in a Multilevel Optical Disc	Wong; Fan; Lee, Ling, Lo, McLaughlin; McPheters, Martin, Powelson; Spielman; Warland, Zingman	2/8/2000
2,356,858	Canada	Method and Apparatus for Reading and Writing in a Multilevel Optical Disc	Wong; Fan; Lee, Ling, Lo, McLaughlin; McPheters, Martin, Powelson; Spielman; Warland, Zingman	2/8/2000
911733.4	Europe	Method and Apparatus for Reading and Writing in a Multilevel Optical Disc	Wong; Fan; Lee, Ling, Lo, McLaughlin; McPheters, Martin, Powelson; Spielman; Warland, Zingman	2/8/2000
2000-600,264	Japan	Method and Apparatus for Reading and Writing in a Multilevel Optical Disc	Wong; Fan; Lee, Ling, Lo, McLaughlin; McPheters, Martin, Powelson; Spielman; Warland, Zingman	8/10/2001
10-2001-7010512	Korea	Method and Apparatus for Reading and Writing in a Multilevel Optical Disc	Wong; Fan; Lee, Ling, Lo, McLaughlin; McPheters, Martin, Powelson; Spielman; Warland, Zingman	8/18/2001
200104098-9	Singapore	Method and Apparatus for Reading and Writing in a Multilevel Optical Disc	Wong; Fan; Lee, Ling, Lo, McLaughlin; McPheters, Martin, Powelson; Spielman; Warland, Zingman	2/8/2000